

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/26787

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 15/86, 15/48, 15/49
 US CL : 435/456, 320.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 435/456, 320.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Mansky, L.M., "Influence of Reverse Transcriptase Variants, Drugs, and Vpr on Human Immunodeficiency Virus Type 1 Mutant Frequencies", Feb. 2003, J. Virol., Vol. 77: pgs. 2071-2080. See in particular Figure 1 A and B.	1-5, 8-10, 13-15, 17, 19-20, 26
A	Wooley, D.P. et al., "Retroviral Recombination Is Nonrandom and Sequence Dependent", 1998, Virology, Vol. 243: pgs 229-234.	1-26
A	Anderson, J.A. et al., "Retroviral Recombination Rates Do Not Increase Linearly with Marker Distance and Are Limited by the Size of the Recombining Subpopulation", 1998, J. Virol., Vol. 72: pgs. 1195-1202.	1-26
A	Mansky, L.M. et al., "The Interaction of Vpr with Uracil DNA Glycosylase Modulates the Human Immunodeficiency Virus Type 1 In Vivo Mutation Rate", 2000, J. Virol., Vol. 74: pgs. 7039-7047.	1-26
A	Bircher, L.A. et al., "High fidelity of homologous retroviral recombination in cell culture", 2002, Arch. Virol., Vol. 147: 1665-1683.	1-26

 Further documents are listed in the continuation of Box C.

See patent family annex.

• Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

20 January 2005 (20.01.2005)

Date of mailing of the international search report

10 MAR 2005

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/US04/26787

Continuation of B. FIELDS SEARCHED Item 3:

FILE 'EMBASE, BIOSIS, MEDLINE, CAPLUS' ENTERED AT 10:17:40 ON 20 JAN 2005

L1 594134 S RETROVIR? OR LENTIVIR? OR HIV OR SIV OR FIV OR BIV
L2 40959 S (MUTATION (A) RATE) OR (MUTATION (A) FREQUENC?) OR (RECOMBINA
L3 845 S L1 (P) L2
L4 825576 S VECTOR OR PLASMID
L5 541295 S VECTOR
L6 186 S L3 (P) L5
L7 59 DUP REM L6 (127 DUPLICATES REMOVED)
L8 49 S L7 AND PY<=2002
L9 4 S L7 AND PY=2003
L10 4141 S MUTANT (A) FREQUENC?
L11 91 S L1 (P) L10
L12 16 S L11 (P) L5
L13 4 DUP REM L12 (12 DUPLICATES REMOVED)
L14 27 DUP REM L11 (64 DUPLICATES REMOVED)
L15 446 S MUTATION (A) TARGET
L16 0 S L3 (P) L15
L17 4 S L11 (P) L15
L18 1 DUP REM L17 (3 DUPLICATES REMOVED)

EAST: US-PGPUB; USPAT; EPO; JPO; DERWENT

0 Dawn near wooley.in.
0 patricia near wooley.in.
5 kelly near huang.in.
27 jo near huang.in.
0 louis near mansky.in.
83667 retrovir\$ OR lentivir\$ OR hiv OR siv OR fiv OR biv
4214 (mutation adj rate) OR (mutation adj frequency) OR (recombination adj rate) OR (recombination adj frequency)
248 S6 same S7
192 S6 with S7
2937 gag same pol same env
2753 S6 same S10
140 S11 and S7
15 S11 same S7
349771 vector OR plasmid
27404 S6 with S14
1748 S15 same S10
15 S16 same S7
46 S15 same S7